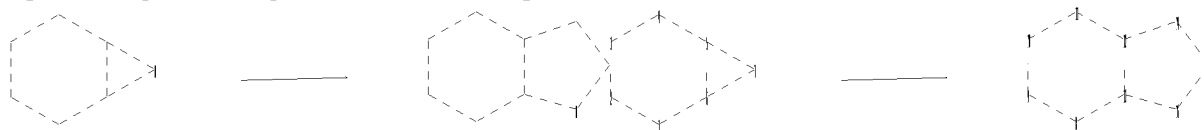


=>

Uploading C:\Program Files\Stnexp\Queries\10580610-casreact.str



ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-7 8-9 8-13 9-10 10-11 11-12 12-13 12-14
13-16 14-15 15-16

exact/norm bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-7 8-9 8-13 9-10 10-11 11-12 12-13 12-14
13-16 14-15 15-16

isolated ring systems :

containing 1 : 8 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom

11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom

fragments assigned product role:

containing 8

fragments assigned reactant/reagent role:

containing 1

node mappings:

3:10 4:11 2:9 1:8 6:13 5:12

L13 STRUCTURE UPLOADED

=> s l13 sss full

FULL SEARCH INITIATED 09:16:27 FILE 'CASREACT'

SCREENING COMPLETE - 2556 REACTIONS TO VERIFY FROM 244 DOCUMENTS

100.0% DONE 2556 VERIFIED 29 HIT RXNS

9 DOCS

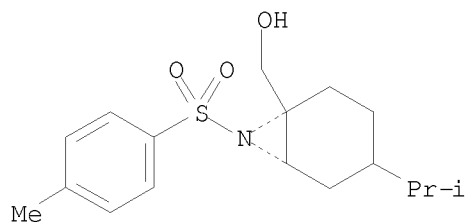
SEARCH TIME: 00.00.01

L15 9 SEA SSS FUL L13 (29 REACTIONS)

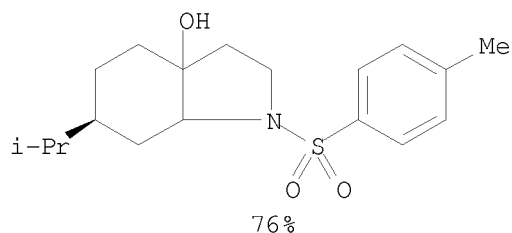
=> d l15 tot

L15 ANSWER 1 OF 9 CASREACT COPYRIGHT 2008 ACS on STN

RX(209) OF 518 - 2 STEPS



1. NaH, THF
2. Corey's reagent,
DMSO



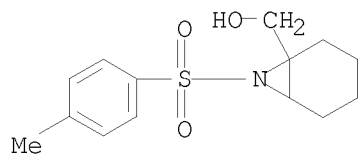
REF: Journal of the American Chemical Society, 129(7), 1996-2003;
2007

NOTE: 1) regioselective

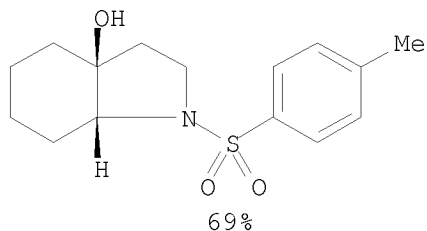
CON: STEP(1.1) 4 hours, room temperature; room temperature -> 0 deg C
STEP(2.1) room temperature -> 85 deg C; 24 hours, 85 deg C

L15 ANSWER 2 OF 9 CASREACT COPYRIGHT 2008 ACS on STN

RX(31) OF 38 - 2 STEPS



1.1. KH, THF
1.2. NH4Cl, Water
2.1. Me3SO.I, BuLi,
THF, Hexane
2.2. DMPU, THF
2.3. NH4Cl, Water

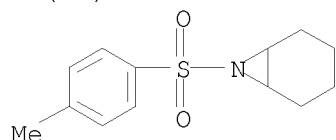


REF: Chemical Communications (Cambridge, United Kingdom), (30),
3226-3228; 2006

CON: STEP(1.1) -78 deg C; 5 minutes, -78 deg C -> 0 deg C;
120 minutes, 0 deg C
STEP(1.2) 0 deg C
STEP(2.1) 15 minutes, -78 deg C; 15 minutes, 0 deg C
STEP(2.2) -78 deg C; 5 minutes, -78 deg C -> room temperature;
120 minutes, reflux

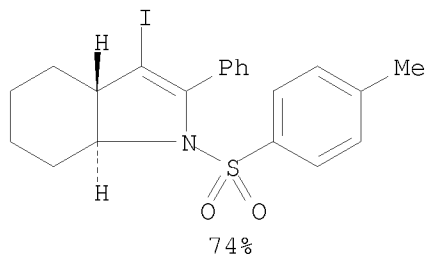
L15 ANSWER 3 OF 9 CASREACT COPYRIGHT 2008 ACS on STN

RX(24) OF 32



(step 1)

1. Phenylacetylene,
NaH, DMSO
2. I₂, AgOAc
3. Na₂S₂O₃, Water



74%

REF: Tetrahedron, 61(40), 9586-9593; 2005

NOTE: molecular sieves used in stage 1, alternative preparation
increased yield

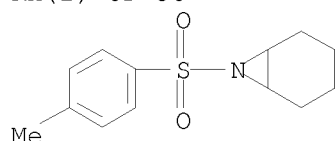
CON: STAGE(1) 2 hours, room temperature

STAGE(2) room temperature -> 40 deg C; 5 hours, room temperature

STAGE(3) room temperature

L15 ANSWER 4 OF 9 CASREACT COPYRIGHT 2008 ACS on STN

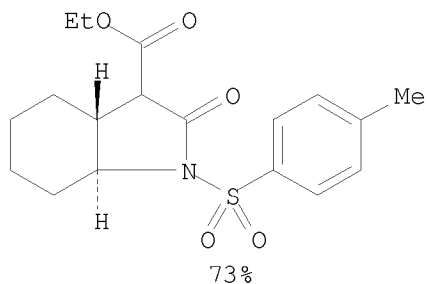
RX(2) OF 36



(step 2)



1. NaOEt, THF



73%

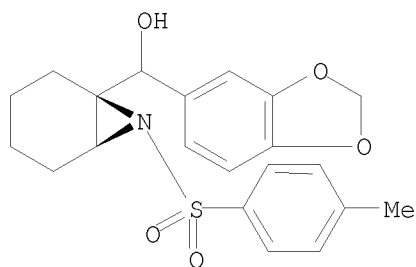
REF: PCT Int. Appl., 2005054194, 16 Jun 2005

CON: STAGE(1) 0.75 hours, reflux

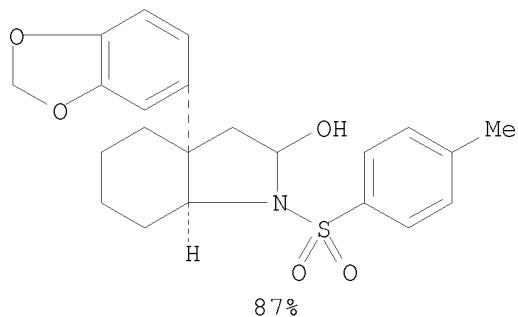
STAGE(2) 1 hour, reflux; 15 hours, reflux

L15 ANSWER 5 OF 9 CASREACT COPYRIGHT 2008 ACS on STN

RX(41) OF 133 - 3 STEPS



- 1.1. ZnBr_2 , CH_2Cl_2
- 1.2. Water
- 2.1. $\text{Ph}_3\text{PCH}_2\text{OMe} \cdot \text{Cl}$, THF
- 2.2. BuLi , Hexane
- 2.3. THF
- 2.4. Water
- 3.1. HClO_4 , Et_2O , Water
- 3.2. NaHCO_3 , Water



REF: Organic Letters, 5(13), 2319-2321; 2003

NOTE: 1) key step, stereoselective, 2) 1:1 E:Z

CON: STEP(1) 1 hour, room temperature

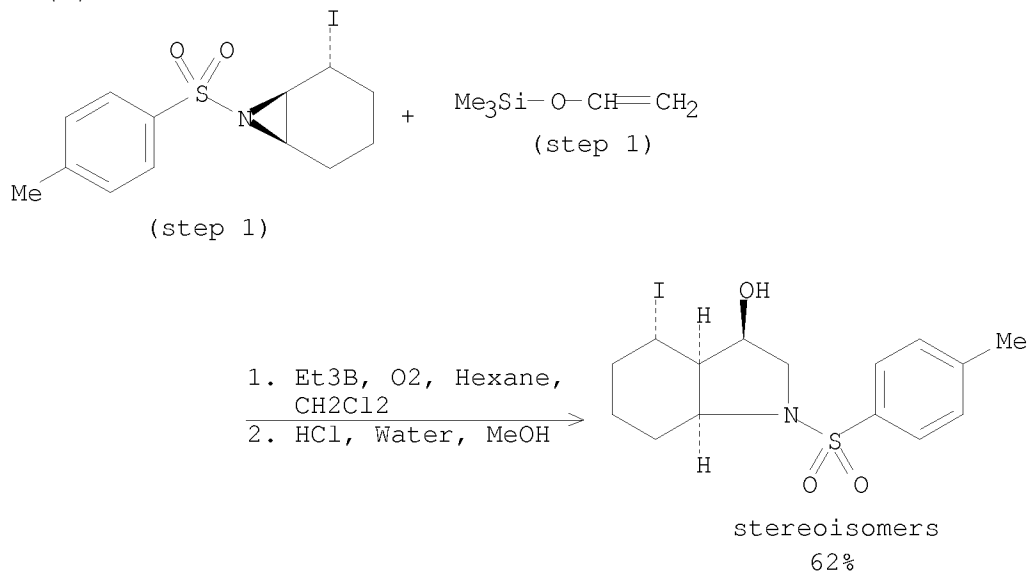
STEP(2.1) room temperature \rightarrow 0 deg C

STEP(2.2) 1 hour, room temperature

STEP(2.3) 0 deg C; 0.5 hours, room temperature

STEP(3.1) 8 hours, room temperature; room temperature \rightarrow 0 deg C

RX(7) OF 24



REF: Journal of Organic Chemistry, 68(8), 3184-3189; 2003

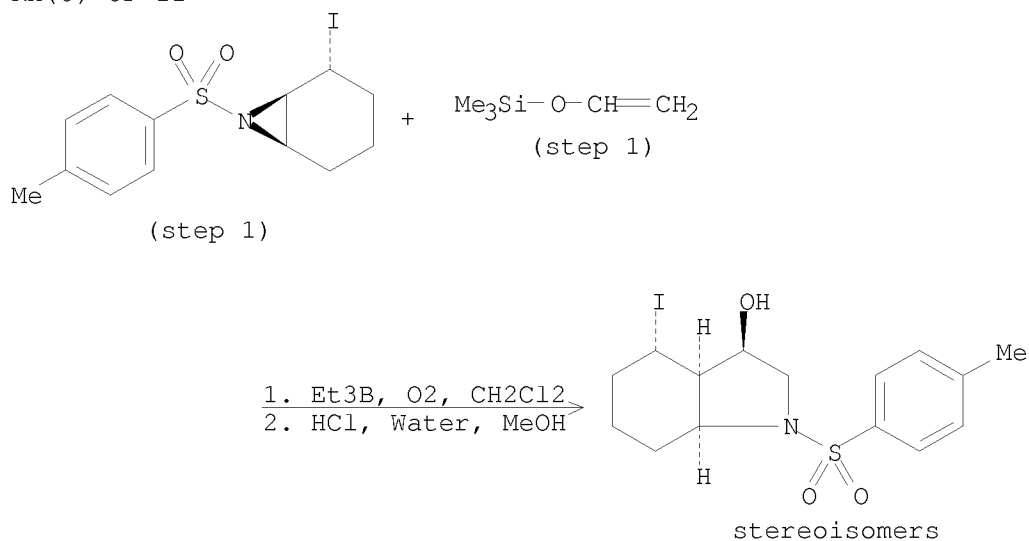
NOTE: stereoselective

CON: STAGE(1) 10 hours, room temperature

STAGE(2) 2 hours, room temperature

L15 ANSWER 7 OF 9 CASREACT COPYRIGHT 2008 ACS on STN

RX(8) OF 11

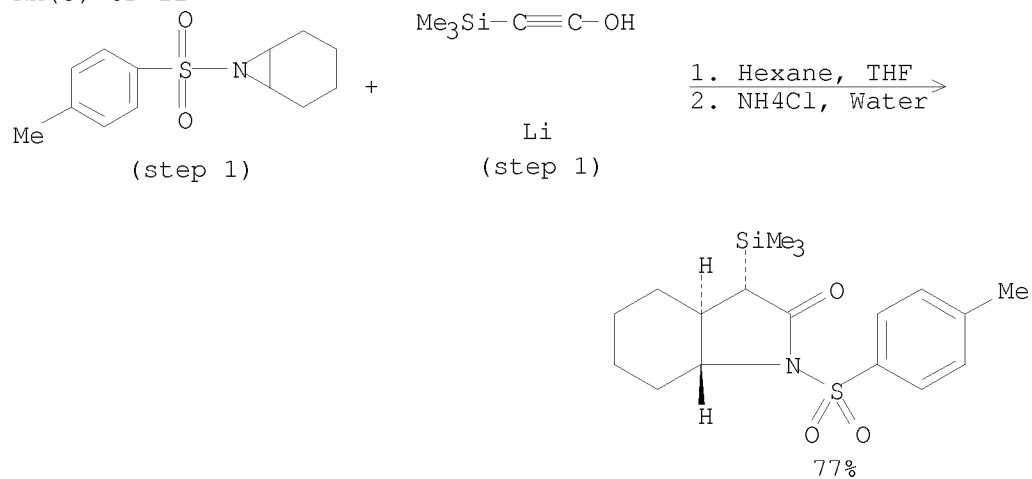


REF: Angewandte Chemie, International Edition, 40(20), 3865-3867;
2001

NOTE: <62>% overall yield

L15 ANSWER 8 OF 9 CASREACT COPYRIGHT 2008 ACS on STN

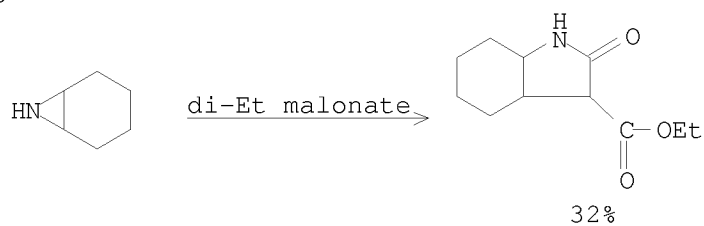
RX(5) OF 12



REF: Journal of Organic Chemistry, 66(1), 169-174; 2001
 NOTE: stereoselective

L15 ANSWER 9 OF 9 CASREACT COPYRIGHT 2008 ACS on STN

RX(1) OF 6



REF: Yakugaku Zasshi, 95(7), 889-92; 1975